

# GRADE SIX EQAO QUESTIONS: Measurement

## Overall Expectation #1:

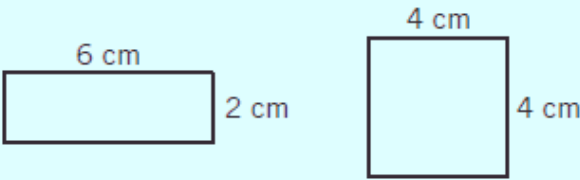
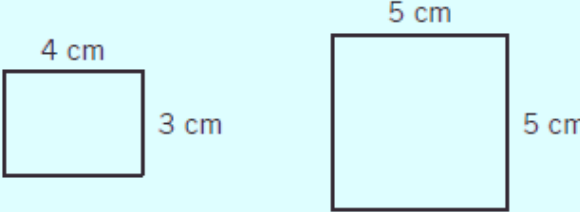
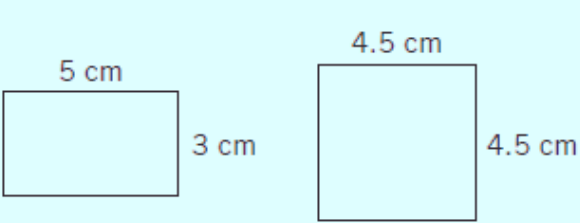
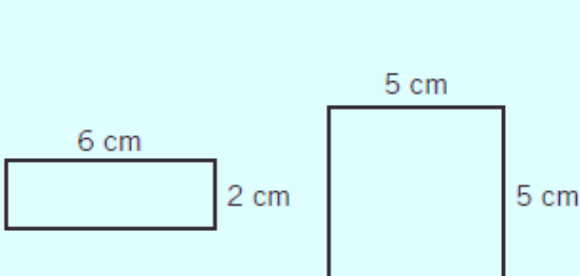
- Estimate, measure, and record quantities, using the metric measurement system

Spring 2006

- 32** Ms. Vanstone asks her students to draw a rectangle and a square with the areas and perimeters given below.

	Rectangle	Square
Area	12 cm <sup>2</sup>	25 cm <sup>2</sup>
Perimeter	16 cm	20 cm

Which shows two correct drawings?

- a
- 
- b
- 
- c
- 
- d
- 
- \*

# GRADE SIX EQAO QUESTIONS: Measurement

Spring 2007

- 4** Frank measures the width of a desk by using a metre stick. He marks a spot on the metre stick to indicate the width of the desk, as shown below.



Which is closest to the width of the desk?

- F 0.70 metres
- G 0.75 metres
- H 15 centimetres
- J 80 centimetres

- 16** Sometimes measurement can be estimated, and at other times it must be very accurate. A list of locations where running times might be measured is shown below.

1. Olympics
2. on the playground
3. school track meet

Which list shows the locations in order from the greatest to the least need for accuracy?

- F 3, 2, 1
- G 3, 1, 2
- H 1, 2, 3
- J 1, 3, 2

## GRADE SIX EQAO QUESTIONS: Measurement

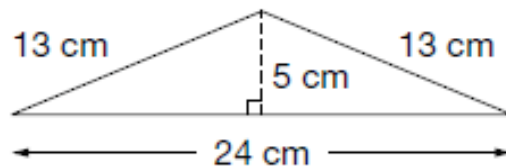
Spring 2008

**19** The time spent on which of the following activities would best be measured to the nearest hundredth of a second?

- a playing at recess
- b walking to school
- c working on homework
- d running a 50-metre race

Spring 2009

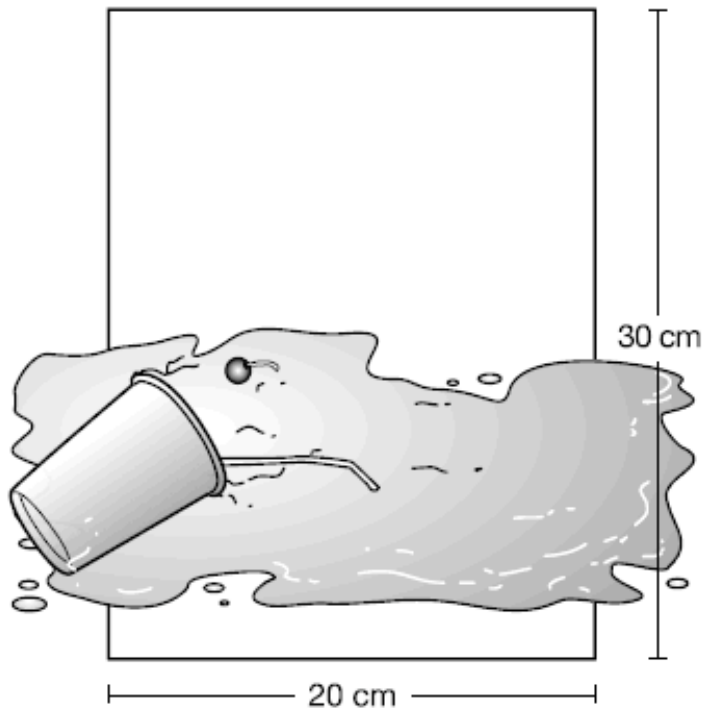
**19** What is the area of the triangle shown below?



- a  $60 \text{ cm}^2$
- b  $65 \text{ cm}^2$
- c  $120 \text{ cm}^2$
- d  $156 \text{ cm}^2$

## GRADE SIX EQAO QUESTIONS: Measurement

- 33** Samantha spills a milkshake on a rectangular piece of paper as shown below.



Which of the following **best** approximates the area of the entire spill?

- a  $100 \text{ cm}^2$
- b  $300 \text{ cm}^2$
- c  $400 \text{ cm}^2$
- d  $600 \text{ cm}^2$

# GRADE SIX EQAO QUESTIONS: Measurement

## Overall Expectation #2:

- Determine the relationships among units and measurable attributes, including the area of a parallelogram, the area of a triangle, and the volume of a triangular prism

Spring 2006

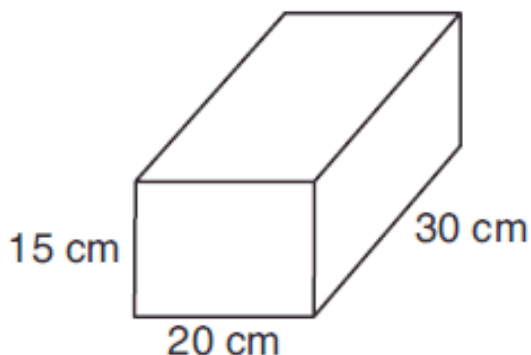
- 1** Which is the most appropriate unit of measurement to describe the area of the floor of a gym?

a  $\text{km}^2$   
b  $\text{cm}^3$   
c  $\text{m}^2$  \*  
d  $\text{m}^3$

- 2** Joseph has a measuring wheel that clicks once for every metre he walks. How many times will the wheel click when Joseph walks 2.6 km?

a 2  
b 26  
c 260  
d 2600 \*

- 18** Four students calculate the volume of the shoe box shown below.

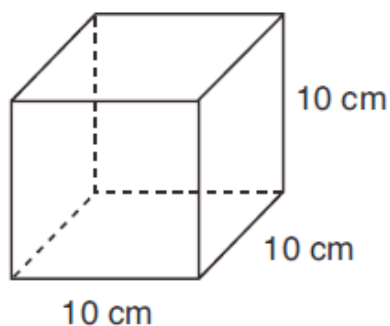


The following number sentences show the students' calculations. Which calculation is correct?

- a  $15 \text{ cm} \times 20 \text{ cm} = 300 \text{ cm}^2$   
b  $20 \text{ cm} \times 30 \text{ cm} = 600 \text{ cm}^2$   
c  $20 \text{ cm} + 30 \text{ cm} + 15 \text{ cm} = 65 \text{ cm}^3$   
d  $15 \text{ cm} \times 20 \text{ cm} \times 30 \text{ cm} = 9000 \text{ cm}^3$  \*

## GRADE SIX EQAO QUESTIONS: Measurement

- 21** A cube is shown below. It is 10 cm wide, 10 cm long and 10 cm high.



What is the area of one of the faces of the cube?

- a  $10 \text{ cm}^2$
- b  $30 \text{ cm}^2$
- c  $100 \text{ cm}^2$  \*
- d  $1000 \text{ cm}^2$

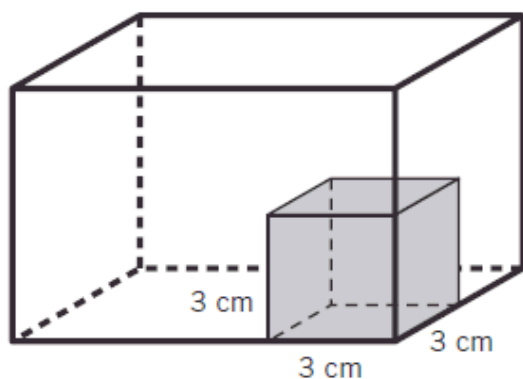
- 22** Sam buys 4 items in a store. The mass of each item is recorded below.

9000 mg, 400 g, 0.04 kg, 0.009 kg

Which item has the greatest mass?

- a 9000 mg
- b 400 g \*
- c 0.04 kg
- d 0.009 kg

- 33** Twelve cubes measuring 3 cm by 3 cm by 3 cm fit perfectly into the rectangular prism shown below.

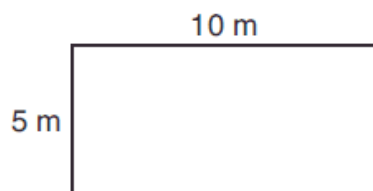


What is the volume of the rectangular prism in  $\text{cm}^3$ ?

- a  $36 \text{ cm}^3$
- b  $162 \text{ cm}^3$
- c  $288 \text{ cm}^3$
- d  $324 \text{ cm}^3$  \*

## GRADE SIX EQAO QUESTIONS: Measurement

- 11** Susie wants to tile the floor of her family's rectangular play room. The tiles she plans to use are 10 cm by 10 cm squares. A drawing of the room is shown below.



How many of the square tiles will Susie need to cover the floor of the play room?

Show your work.

Susie will need \_\_\_\_\_ tiles.

### Spring 2007

- 3** The dimensions of a rectangular prism are shown below.

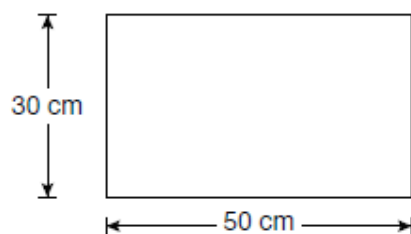
- 5 cm wide
- 4 cm long
- 4 cm high

What is the total surface area of this rectangular prism?

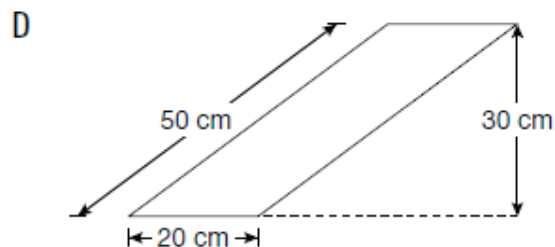
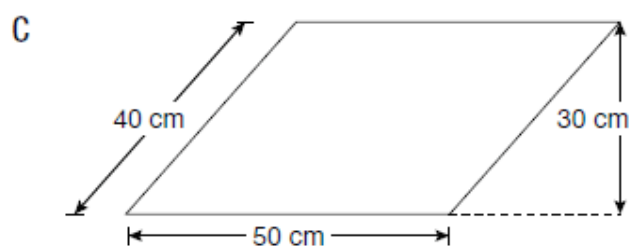
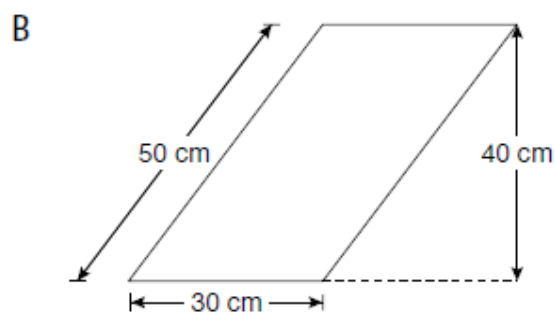
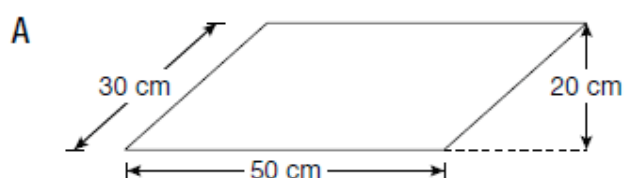
- A 57 cm<sup>2</sup>
- B 80 cm<sup>2</sup>
- C 96 cm<sup>2</sup>
- D 112 cm<sup>2</sup>

## GRADE SIX EQAO QUESTIONS: Measurement

- 15** An artist has some paintings that are rectangular and some that are parallelograms. One of her paintings is shaped like the rectangle shown below.



Which of the following parallelograms has the same area as the rectangle?

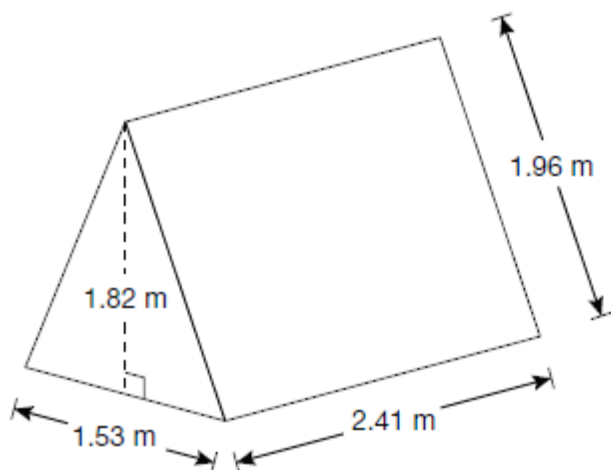


## GRADE SIX EQAO QUESTIONS: Measurement

- 24** A box of modelling clay that weighs 3.5 kg is divided equally among 14 students. How many grams does each student receive?

F 0.25 g  
G 4 g  
H 49 g  
J 250 g

- 25** Cynthia purchases a tent for her camping trip, as shown below. During one night of the camping trip, it rains. The floor of the tent is the only part that stays dry.

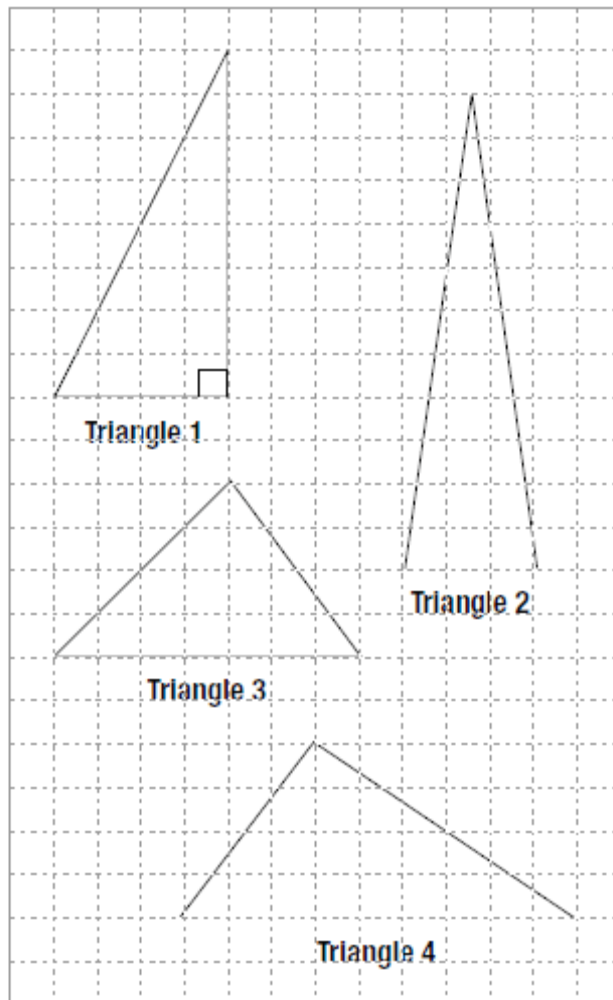


What is the area of the part of Cynthia's tent that gets wet?

A  $10.84 \text{ m}^2$   
B  $12.23 \text{ m}^2$   
C  $15.01 \text{ m}^2$   
D  $16.96 \text{ m}^2$

## GRADE SIX EQAO QUESTIONS: Measurement

**36** Four triangles are shown on the grid below.

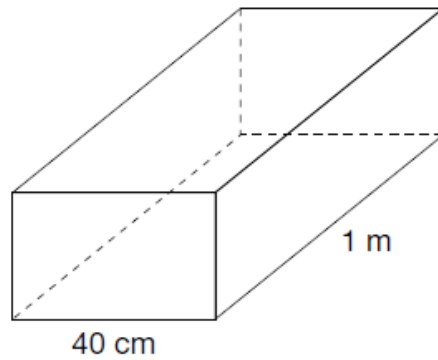


Which triangle has an area of 18 square units?

- F Triangle 1
- G Triangle 2
- H Triangle 3
- J Triangle 4

## GRADE SIX EQAO QUESTIONS: Measurement

- 10** Jude's fish tank, shown below, holds  $100\,000\text{ cm}^3$  of water when full. Jude decides to pour in water to a height of 5 cm below the top of the tank.



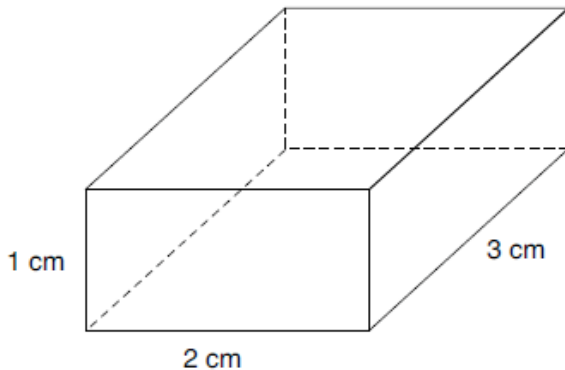
How much water, in  $\text{cm}^3$ , will Jude need to pour into the tank so that the water is 5 cm below the top?

Show your work.

# GRADE SIX EQAO QUESTIONS: Measurement

Spring 2008

- 3** What is the total surface area of the rectangular prism below?



- a  $6 \text{ cm}^2$
- b  $11 \text{ cm}^2$
- c  $16 \text{ cm}^2$
- d  $22 \text{ cm}^2$

- 4** What is the area of a parallelogram with a height of 2 m and a base of 3.5 m?

- a  $1.75 \text{ m}^2$
- b  $3.50 \text{ m}^2$
- c  $7.0 \text{ m}^2$
- d  $11.0 \text{ m}^2$

- 20** Mr. Clarke wants to tile a floor that is 6 metres long and 4 metres wide. The dimensions of each square tile are 20 cm by 20 cm. What is the minimum number of tiles that Mr. Clarke will need to tile the entire floor?

- a 24
- b 400
- c 600
- d 1200

## GRADE SIX EQAO QUESTIONS: Measurement

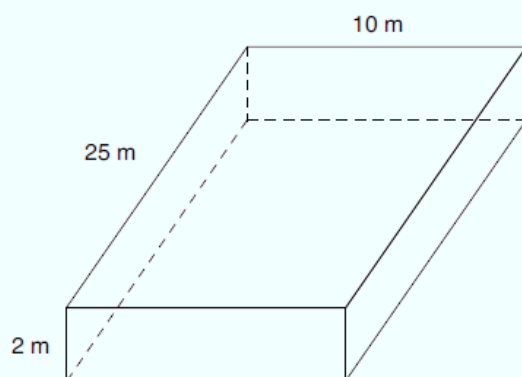
**21** Which of the following would be the most appropriate metric unit to measure the length of Johann's arm?

- a decimetre
- b decametre
- c millimetre
- d kilometre

**33** A group of 6 people equally shares 12 litres of juice. How many millilitres of juice does each person receive?

- a 2
- b 72
- c 2000
- d 12 000

**34** A pool in the shape of a rectangular prism is shown below.



**Hint :**

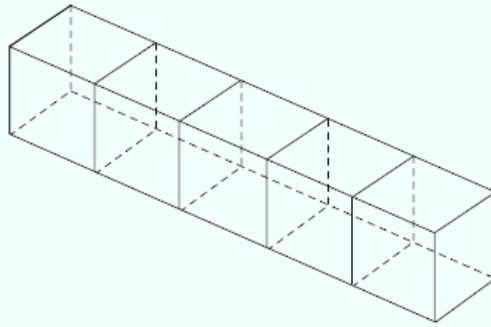
$$1 \text{ m}^3 = 1000 \text{ L}$$

How many litres of water are needed to completely fill the swimming pool?

- a 500 000
- b 50 000
- c 5000
- d 500

## GRADE SIX EQAO QUESTIONS: Measurement

- 8** Daneen builds a model train with 5 cubes as shown below. The dimensions of each cube are  $2\text{ cm} \times 2\text{ cm} \times 2\text{ cm}$ .



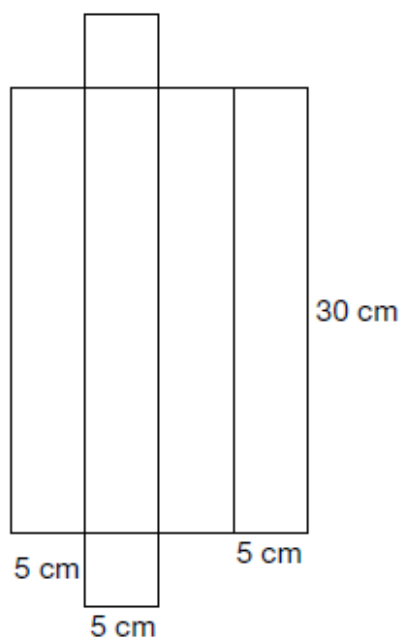
Daneen wants to paint the outside of the model train with red paint. The cost to paint  $1\text{ cm}^2$  of the train is \$0.75. How much will it cost to paint the outside of the model train?

Show your work.

## GRADE SIX EQAO QUESTIONS: Measurement

Spring 2009

- 3** Rebecca creates a net of a rectangular prism, as shown below.



What is the total surface area of the rectangular prism?

- a  $450 \text{ cm}^2$
- b  $600 \text{ cm}^2$
- c  $650 \text{ cm}^2$
- d  $750 \text{ cm}^2$

- 4** Ravi makes 2.80 L of pudding. He wants to completely fill 350 mL cups with pudding. Which of the following expressions can be used to find how many 350 mL cups Ravi can fill?

- a  $2.80 \times 1000 \div 350$
- b  $2.80 \times 1000 + 350$
- c  $2.80 \times 350 \times 1000$
- d  $2.80 \times 350 \div 1000$

## GRADE SIX EQAO QUESTIONS: Measurement

- 20** Elda has a rectangular piece of paper with an area of  $0.12 \text{ m}^2$ . She cuts this piece of paper into small rectangles each with an area of  $200 \text{ cm}^2$ .

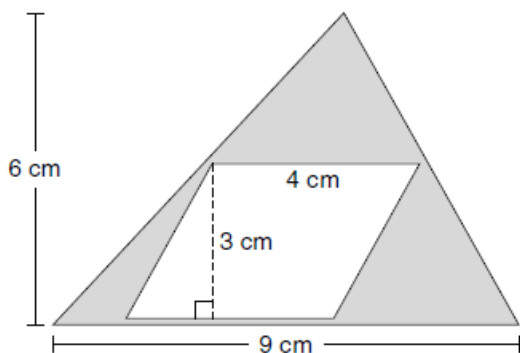
What is the maximum number of these small rectangles that Elda can cut?

- a 6
- b 12
- c 24
- d 60

- 21** A diagonal of a parallelogram is drawn forming 2 triangles. If the area of one of the triangles is  $34 \text{ cm}^2$ , what is the area of the parallelogram?

- a  $17 \text{ cm}^2$
- b  $34 \text{ cm}^2$
- c  $68 \text{ cm}^2$
- d  $136 \text{ cm}^2$

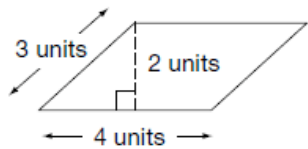
- 34** Which expression can be used to find the area of the shaded region?



- a  $54 \div 2 - 12$
- b  $54 - 4 \times 12 \div 2$
- c  $12 \div 2 - 54$
- d  $12 - 54 \div 2$

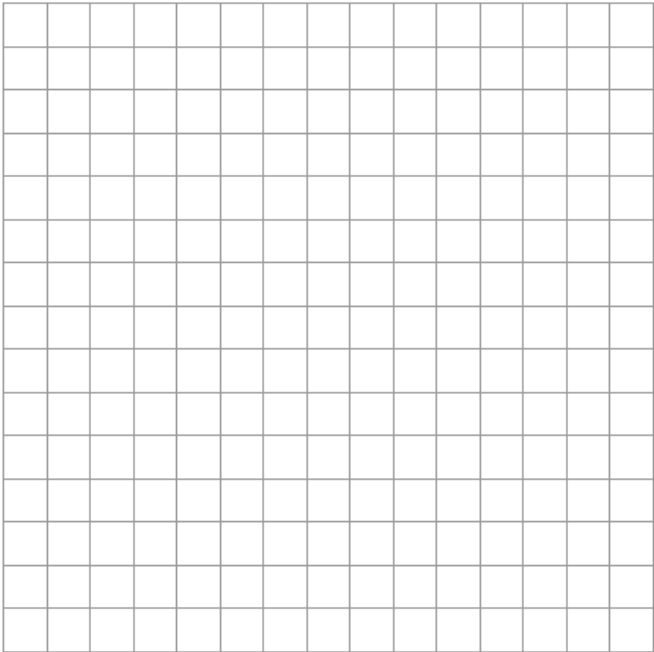
# GRADE SIX EQAO QUESTIONS: Measurement

**10** Determine the area of the parallelogram below.



The area of the parallelogram is \_\_\_\_\_.

Draw a triangle and a rectangle each with the same area as the parallelogram. Use the grid below.



Justify your answers.

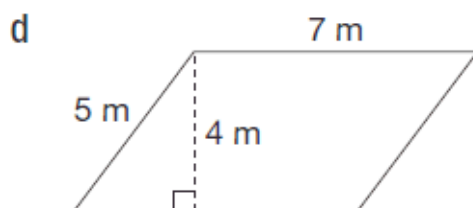
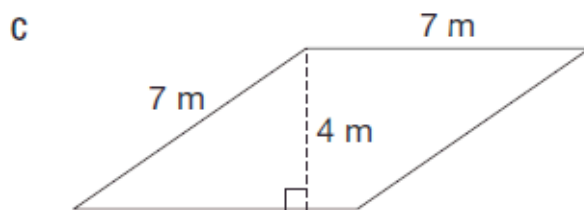
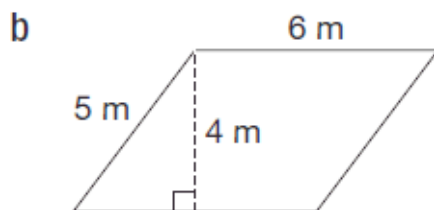
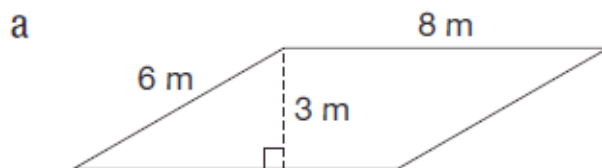
# GRADE SIX EQAO QUESTIONS: Measurement

Spring 2010

- 3** Enrico pours 80 L of water into 200 mL cups. If he fills the cups completely, how many cups does he fill?

a 250  
b 400  
c 2500  
d 4000

- 4** Which parallelogram has an area of  $24 \text{ m}^2$  and a perimeter of 28 m?



## GRADE SIX EQAO QUESTIONS: Measurement

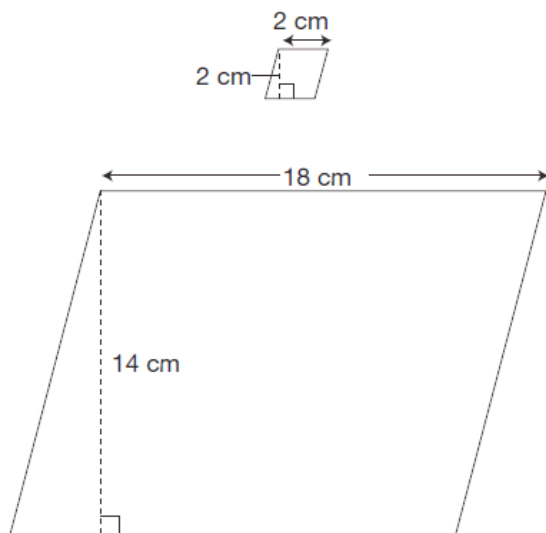
**19** Which unit of measure is most appropriate to describe the length of a page in a textbook?

- a centimetre
- b kilometre
- c metre
- d millimetre

**21** Which is equivalent to  $1 \text{ m}^2$ ?

- a  $10 \text{ cm}^2$
- b  $100 \text{ cm}^2$
- c  $1000 \text{ cm}^2$
- d  $10\,000 \text{ cm}^2$

**22** Look at the two parallelograms below.



What is the minimum number of small parallelograms needed to cover the larger parallelogram completely?

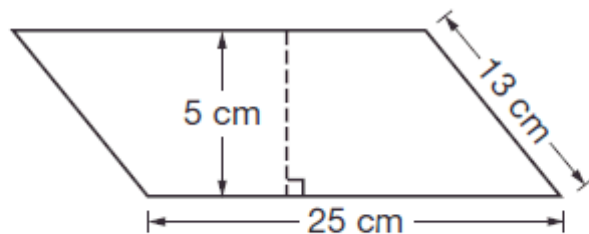
- a 16
- b 63
- c 126
- d 252

## GRADE SIX EQAO QUESTIONS: Measurement

**24** A turkey weighs 9.75 kilograms. It takes about 20 minutes to cook 500 grams of this turkey. Approximately how many minutes does it take to cook the whole turkey?

- a 39
- b 74
- c 390
- d 488

**33** Look at the parallelogram below.



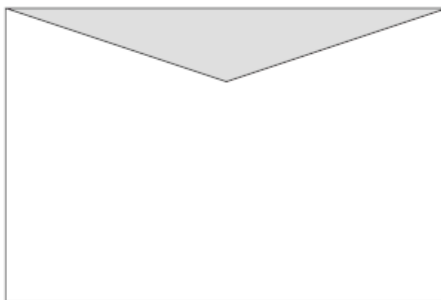
Dylan wants to split the parallelogram into two congruent triangles.

Which expression can he use to find the area, in square centimetres, of each triangle?

- a  $(25 \times 5) \div 2$
- b  $(25 \times 5) \times 2$
- c  $(25 \times 13) \div 2$
- d  $(25 \times 13) \times 2$

## GRADE SIX EQAO QUESTIONS: Measurement

**10** Determine the area of the unshaded part of the rectangle below. Use a ruler.



Justify your answer.

The area of the unshaded part of the rectangle is \_\_\_\_\_.